

The listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1.-34. (Canceled)

35. (New) A transmission device for 4-value FSK modulation which transmits transmission data including high-importance first data having a predetermined bit number and being protected and second data other than the first data and being unprotected, comprising:

a division unit configured to divide the first data into first bit data by a single bit and divide the second data into second bit data by two bits;

a redundant bit addition unit configured to add a redundant bit of a predetermined value to each of the first bit data to generate two bit data; and

a modulation unit configured to perform 4-value FSK modulation for the first bit data to which the redundant bit has been added and the second bit data, with symbol values obtained by a Gray code,

wherein the redundant bit is a fixed-value bit which is common to, of four symbols obtained by the Gray code, the two symbols having a largest Euclidean distance, and

the first data being protected by adding the redundant bit is arranged to either one of the two symbols, among the four symbols, having the largest Euclidean distance capable of improving a signal-to-noise ratio.

36. (New) The transmission device according to Claim 35, wherein each of the first data being protected comprises flag data.

37. (New) The transmission device according to Claim 35, wherein the first data being protected includes bits for error check.

38. (New) The transmission device according to Claim 35, wherein the first data being protected includes bits for error correction.

39. (New) The transmission device according to Claim 35, wherein the number of the first data being protected is less than the number of the second data being unprotected.

40. (New) The transmission device according to claim 35, wherein original data represents a plurality of pieces of information, and the redundant bit addition unit operates, for respective ones of the plurality of pieces of information, to add the redundant bit to each of the first data being protected to generate coded data.

41. (New) A transmission method for 4-value FSK modulation, comprising the steps of:

- dividing high-importance first data having a predetermined bit number and being protected into first bit data by a single bit;

- dividing second data other than the first data and being unprotected into second bit data by two bits;

- adding a redundant bit of a predetermined value to each of the first bit data to generate two bit data; and

- performing 4-value FSK modulation for the first bit data to which the redundant bit has been added and the second bit data, with symbol values obtained by a Gray code,

wherein the redundant bit is a bit which is common to, of four symbols, the two symbols having a largest Euclidean distance, and

the first data being protected by adding the redundant bit is arranged to either one of the two symbols, among the four symbols, having the largest Euclidean distance capable of improving a signal-to-noise ratio.